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ABSTRACT

This report describes the application of videotape recordings as an applied research technique in a project directed toward the research and development of training designs and materials for human service agency professionals. The multiple applications of VTR and the types of data collection situations in which it has been utilized are briefly reviewed, and the relative strengths and limitations of VTR as an applied research technique in the development of training materials are discussed in the contexts of access to data, quality of data, quality of production, and costs of production. The three approaches described for making evaluative judgements about the strengths and limitations of VTR as a research tool include: type I--the addition of a literature review with a video production, usually as part of the development of training materials after a literature search and the formulation of training content is completed; type II--the addition of a video production phase after both a literature review and a collection and analysis of field data is completed; and type III--the combination of a video production with the collection of field data after a literature review is completed and before decisions are made about the ultimate content of the training. (RAO)

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THE USE OF VIDEO TAPE AS AN APPLIED RESEARCH TECHNIQUE

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THE USE OF VIDEO TAPE AS AN APPLIED RESEARCH TECHNIQUE

INTRODUCTION

The purpose of this report is to describe the application of video tape recording (VTR) media as an applied research technique to a project which was funded for two years (1977-1978) by the Science and Education Administration- Extension, U. S. Department of Agriculture, to the Department of Community Service Education, College of Human Ecology, Cornell University. The project was directed toward the research and development of training designs and materials for human service agency professionals and voluntary decision-makers who serve on their agency boards and advisory committees to engage in planning. The training materials which were produced are intended to enable such persons to increase their capability in developing arguments and effective presentation strategies for community services. In order to derive ideas and concepts for the training content as well as to identify the most appropriate forms of training for potential learners the following tasks were performed: (1) a literature search was conducted; 2) interview data were collected by phone and through on-site visitations related to 20 community service planning situations in New York State; and 3) additional interviews were conducted with government officials, community organization consultants, advocacy group leaders, and community service agency personnel at the local state, and federal levels (N=36). These additional interviews were video taped (approximately 15 hours of video tape).

Video taped data were content analyzed through repeated observation as well as through processing the transcripts taken from the tapes. Findings from taped data were then synthesized with findings from the literature review and from the case studies. From this information, training designs, content, and materials were developed. The video taped data, collected for purposes of research, in addition, were used to produce training tapes by selecting and editing those portions which illustrated, reinforced or summarized the content which was included in the written training materials. The training tapes are intended for use

either in conjunction with the training sessions or separate from them. This report will not focus on the content of the training, but rather on a specific use of video tape recording (VTR) and its contribution to the development of training materials.

After a brief review of the multiple applications of VTR and the types of data collection situations to which it has been put, the report will present the authors' judgements about the relative strengths and limitations of VTR as an applied research technique in the development of training materials, using the following criteria: 1) Access to data; 2) Quality of Data; 3) Quality of Production; and 4) Costs of Production. These criteria will be applied to three types of approaches.

VTR: A MEDIA WITH MULTIPLE APPLICATIONS

Both opportunities and pitfalls are simultaneously faced whenever a new technology such as Video Tape Recording (VTR) becomes widely available to the average person in society. Before 1968, equipment was expensive and complex to operate and generally was accessible only to broadcast production capability (The cost for broadcast VTR systems usually exceeds $100,000). With the advent in 1968, of portable black and white VTR systems, which consist of a video camera, a video tape recorder, a television receiver, and connecting wires, and the introduction of portable color VTR systems in 1973, the costs now are within range of most schools, agencies, business, and some amateurs (Weiner, 1973). The cost of an average three quarter inch color video system ranges from $6,000-$7,000. Three quarter inch black and white systems cost from $2,500 to $3,000 (Charney, 1978). Accessibility to a media which provides the first reliable and immediately reproducible method of storing picture and sound information has created a natural interest among many groups including educational professionals as well as average citizens who have been reared on television. Within the last few years the applications have become numerous, ingenious and sometimes highly unanticipated. The following list illustrates the diversity of applications reflected from a cursory view of recent literature or from common recognition on the part of citizens:

Crime Watch. Many commercial establishments, including banks, have installed VTR for the purpose of increasing security control;

Instant Replay Sports Broadcasting. Instant replay of sports events has meant that often millions of television viewers have access to views of events that are denied to those who are officiating;

In-House Business Communication. The corporate world of business has used tape to transmit internal company news, to immediately dispel rumors, and to train employees;

Trialvision. Testimony of witnesses in courtrooms has been video taped and then reproduced for juries upon request. Witnesses who live far away are saved travel expense and judges can preview testimony and rule on objections in advance (Anapol, 1973; Footluck and Howard, 1977);

Therapeutic Self-Confrontation. Video tape replays have been used for self-confrontation with alcoholics (Paredes and Cornelison, 1968; Munoz, 1972); with criminals (Berner, Brunberger, and Slugs, 1971); with families (Paul, 1966; Perlmutter, et. al., 1967; Alger and Hogan, 1969); and with encounter groups (Hudson, 1968; Lawrence, 1971; Sage, 1972);

Counselor Training Self-Confrontation. Video tape replays have been used for self-confrontation as a part of training with psychiatrists (Berger, 1970); with school counselors (Ryan,1970); with clinicians (Ivey, and others, 1968; Cerra, 1969; Yenawine and Arbuckle, 1971; Boone, 1973; Seals, 1973);

Preservice Teacher Training. By far more than any other group, teachers, have received video tape self-confrontation if references in journals are an indication. Several hundred references on feedback and self-confrontation are listed in excellent reviews of the literature by Fiker (1970) and Fuller and Manning (1973). Subsequently, many other reports have appeared;

Videopolitics. Alternative political statements by citizen advocacy groups to balance network news bias have been video taped and provided to the public through public access television and alternative video networks (Woods, 1973). Community organizers have used the visual impact of video tape to arouse neighborhoods and to present facts in courtrooms which have undermined the credibility of landlords (Ward, Brown, and Wysocki, 1975). Community development efforts also have made use of VTR (Tweedie, Basen and Qunsey, 1972; Prinn and Henant, 1973; Wagner, 1974; and Henant, 1975).

In addition, VTR has been used with sales trainees (Brophy, 1971);

engineers (Perlberg, 1970); and with athletes (Burkhard, Patterson and Rapue, 1967; Cooper, 1970), primarily as an educational or training device.

The introduction of VTR into all these areas has not been without some controversy. The pros and cons range from high enthusiasm to serious questioning of the lack of empirical support for claimed benefits. Fuller and Manning (1973, p. 470) suggest that, "Explosion without explanation seems to be the order of the day." Research on the effects of these applications must move forward before more refined judgements can be made.

VTR: AS A RESEARCH INSTRUMENT

Still another application of VTR is as a basic or applied research tool for the collection of audio and visual data. For many years, anthropologists have made use of photography as a research method (Collier, 1967; Davis, 1975) for studying environmental and cultural behavior. More recently, with the advent of VTR, psychologists and educators have increased the use of this device for their research purposes.

A cursory look at this literature reveals that VTR has been used to collect data on the behaviors and interactions of newborn children (Mendelson, 1976); infants and fathers (Yogman, 1977); infants and mothers (Rosenfeld, 1973); children (Borich, 1977; Thelen, 1977; Von Raffler, 1977): children in classrooms (Herer, 1968; Whitley, 1969; Adams and Biddle, 1970; Biddle, 1971; Miller, 1971; Ash, 1973; Wingo, 1973; Strayer, 1975; Swigant, 1975; Bartholomew, 1976; Florio, 1976); bilingual children (Newburger, 1970; Rodriquez-Brown, 1977); teacher student interaction (Neujhar, 1970; Smith, 1977); student teachers (Carus, 1970; Bedics, 1971; Biberstine, 1971; Doty, Harrington, Chase and Cotrell, 1972 ; Duvall, 1971; Kysilka, 1971; Brusling, 1973; Smith, 1977); elementary and secondary teacher nonverbal communication and performance (Love, 1971; Grant, 1972; Eggert, and Moore, 1975; Garten, 1974; Wilson, 1975; London, 1976; McDonald and Elias, 1976); university faculty performance (Hodgkinson, 1972; Erickson, 1976): handicapped persons including deaf and blind (Hoffmeister, 1974; Tweedie, 1974; Curtis, 1975, 1976); mental health clients (Dinoff, 1971; Soloway, 1973; Peterson, 1976; Muzekari,1977); clinician/client interaction (Schubert, and Laird, 1975); married couples (Alger and Hogan, 1968); and counselors (Boone, 1973; Seals, 1973).

Even program evaluators viewing institutional effectiveness and program strength, have experimented with the use of VTR data collection (Stevenson, 1970; Stepsus, 1977).

The lack of references in the literature to the use of VTR as an aid to interviewing in the research process suggests that its use has been quite limited. However, Dinoff (1970) explored the potential of VTR for increasing the reliability of standardized interviewing by having informants view their interviewers on a television screen via VTR rather than in person. Informants were interviewed later the same day in person by different interviewers who used the same interview questions. Audio tapes of both interivews were recorded and the results compared. Informants talked longer and disclosed more to the interviewer shown only on the television screen through VTR. Most other applications of VTR to interview data collection have not focused on the adequacy of the technique itself. The state of the art is illustrated by an article by Short (1972) entitled "Gather Data with Video Tape or How to Put the Cart Before the Horse." Clearly more researchers using video tape for data collection have a responsibility to evaluate the use of their tools.

One of the most innovative research efforts using VTR and at the same time evaluating its use has been reported by Wagner (1974). The research objective was solely one of theory generation with regard to the effectiveness of VTR in the community development process. VTR was used to record interviews with community elites and community meetings regarding a variety of public issues. Shortly after the data collection commenced, Wagner (1974, p. 1) reported that, "it became apparent that video tape, when used as a tool for community development, inhibited communication as often as it served a facilitator role, and would continue to do so unless appropriate strategies were developed for its application." Wagner's work is significant because it provides a theoretical framework for viewing the strengths and limitations of the use of VTR, not only for community development but for its use as a data collection technique. His theory will be used later in this report to discuss the problem of access to data using video tapes.

VTR AND ALTERNATIVE APPROACHES TO DEVELOPMENT OF TRAINING MATERIALS

There are two common approaches to the development of training

materials. The first usually includes a review of the literature; the development of materials including teaching aids such as teacher/facilitator guides, manuals, worksheets, handouts, and audio visuals including video tape; and the pilot testing, evaluation, and refinement of these materials with various audiences. The second approach includes a review of the literature, but in addition, includes an effort to involve the practitioners in an indigenous interactive applied research effort (Farmer, 1971) in order to derive from the field those ideas and concepts which have been found to be effective. These ideas and concepts are then integrated with those found in the literature. Materials are then developed, pilot tested, evaluated and modified with the aid of practitioners. If slides or other audio visual media including video tapes are developed they are generally produced after the other materials have been formulated and serve to illustrate the content of training. The development of these audio visual materials in this second approach is considered a separate task which may or may not involve practitioners who contributed to the development of useable ideas. This report describes a third approach which is a modification of the second approach. In this third approach, the major difference is that VTR was used in conjunction with the applied research and data gathering phase as a data collection device or technique. The data derived were used not only for the development of training content, but also as the raw material from which color video training tapes were produced as part of the total training package of materials.

THE VIDEO DATA COLLECTION / PRODUCTION OF VIDEO TRAINING TAPES APPROACH

An applied research dimension was included as part of the project in order to identify ideas that: 1) had demonstrated usefulness to practitioners and decision-makers; 2) were appropriate to local community service planning situations; and 3) were feasible for application within local training constraints. The objectives of the project described in this report called for the production of training materials for local community service personnel and citizens who serve on community service advisory committees and agency boards. The content was limited to ideas and concepts that would help the learners to:

-Have increased skill in involving citizens in the planning process and in the production of evidence of public support for community service decisions;
-Analyze community need for services from different perspectives and to gather essential evidence which could be used in effective presentations;
-Analyze and conduct an inventory of community resources so that presentations could include adequate information about what is possible using multiple sources of support; and
-Understand and make use of knowledge about what goes into an effective presentation strategy for community services.

It was decided by the project staff that 4 training modules should be developed, each focusing on one of the above objectives. Each module contains handouts with key ideas, worksheets for specific application to a community service planning situation, overhead transparencies, and a facilitator's manual with suggestions for workshop activities and illustrations drawn from the case studies and interviews. In addition each module has one or more short video tapes which can be used at specific times during each workshop and/or independently from the other workshop material. Careful consideration was given to the decision over the use of video tape cassettes versus the use of colored slides. Wells (1978) in reporting comparative costs for production concluded that video tape was less expensive and that a dialogue style was more credible with the business audience he intended to reach at Pacific Power.

There are many ways of describing this type of research, and clearly the distinction between pure and applied research makes it sound as if there were a dichotomy. Fox (1969, p. 94) states that "the terms pure and applied research refer to the extent to which the research is directed toward, or has relevance for, the solution of a currently existing problem." The problem that provided the focus for the present research as stated previously, was that of identifying ideas and practices that were effective in several aspects of community service planning at the local level. To focus on such a problem required qualitative or naturalistic research; that is, research in which the investigator takes

natural settings, already established and functioning, and adds a data collection dimension so that some conclusion about relative effectiveness can be reached (Fox, 1969, p. 453) or that promising ideas can be obtained. Rist (1978) has provided an excellent bibliography for qualitative research. The approach used here also was similar to that described by Glaser and Straus (1967), as a deliberate effort to generate new categories through the qualitative analysis of successive data gathering and analysis cycles. Glaser and Strauss refer to this as a process of theoretical sampling:

> Theoretical sampling is a process of data collection whereby the analyst jointly collects, codes, and analyzes his data and decides what data to collect next and where to find them in order to develop his theory as it emerges. This process of data collection is controlled by the emerging theory, whether substantive or formal (p. 45).

At the onset of the data collection process the task was to identify the general types of persons who would be most likely to have unique and special knowledge about those effective practices which the project intended to describe and teach through the training materials. It was decided to first interview persons who were knowledgeable at the local level as a result of their recent involvement with community service planning and had engaged in making presentations on behalf of community services. The statewide staff of Cooperative Extension in New York State was requested to nominate these instances. More than 40 cases were nominated. A dimensional sample was selected from this pool, taking into consideration: various geographic areas of the state; high and low population density; and range of community service program areas. From an initial sample of 22 cases, 3 were subsequently dropped because more than a year had elapsed, key informant were not available, or the cost and time involved in site visits was too high. Interviews during this first phase of data gathering, were conducted with a total of 57 persons related to 19 cases. An interview with a key informant for each case was conducted on a face-to-face basis, usually on site. Additional informants were interviewed either on site or by telephone. VTR was not used to collect data in this first round of interviewing at the local level. After the analysis of data of the first round of interviewing was concluded, a second phase of interviewing was undertaken, this time focusing

on government officials, community organization consultants, advocacy group leaders and additional community service agency personnel, at the local, state, and national levels. The selection process of informants for this second series of interviews occurred through a serial nomination process during the course of conducting the interviews. When during preliminary telephone inquiries or during an interview, at least three persons had nominated a potential informant as being knowledgeable and effective in the practice of the content under investigation, then that nominated person was selected to be approached for an interview. Often the names of persons who had nominated the informant were used in obtaining their cooperation in the setting of an interview appointment. In selecting elite and specialized informants, an attempt was made to get representation from the four types of persons mentioned above. Budget limitations meant that some potential informants in places other than the eastern part of the United States were not included. The following tables list the informants by name, according to title, and office:

TABLE I

Distribution of Elite and Specialized Community Organization Consultant Informants According to Type of Position and Office

N=10

Name	Title	Office
Joseph Brooks	Executive Director	Emergency Land Fund
Heleny Cook	Eastern Office Director	Youth Project
Lenny Conway	National President	Youth Project
Susan Davis	Executive Director	National Self-Help Resource Center
Pablo Eisenberg	National Director	Center for Community Change
Ira Kaye	Board Member	Rural America
Larry Newlin	Rural Program Advisor	National Rural Center
Bart Russell	Executive Director	National Association of Towns and Townships
Betty Vinson	Director of Information Clearinghouse	National Rural Center
Raul Yzaguirre	Executive Director	National Council of LaRaza

TABLE II

Distribution of Elite and Specialized Community Service Agency Personnel Informants According to Type and Position and Office

N=9

Name	Title	Office
Dan Hill	Broome County Coordinator	Cooperative Extension Service New York State
Robert Kenerson	Director	United Way of Tompkins County, New York
Dan Kuennen	Community Resource Development Specialist	Cooperative Extension Service Delaware
Betty Morrow	Board Member	Area Congregations Together Ithaca, New York
Helen Morse	President of Board	Planned Parenthood of Tompkins County, New York
Arthur Pearce	Director	Neighborhood Housing Service Ithaca, New York
Ozzie Richardson	Board Member	Neighborhood Housing Service Ithaca, New York
June Rogers	Executive Director	Day Care and Child Development Council of Tompkins County, New York
Joan Thomson	Assistant for Cooperative Relations	Cooperative Extension Service Penn State University

TABLE III

Distribution of Elite and Specialized Advocacy Group Leader Informants According to Type of Position and Office

N=4

Name	Title	Office
Bob Bothwell	Executive Director	National Committee for Responsive Philanthropy
Dick Clark	Lobbyist Special Minorities	Common Cause
Louise Dunlop	Director	Environmental Policy Center
Kathleen O'Reilly	Executive Director	Consumer Confederation of America

TABLE IV

Distribution of Elite and Specialized Government Decision-Maker Informants According to Type of Position and Office

N=12

Name	Title	Office
Gino Baroni	Assistant Secretary	Department of Housing and Urban Development-Neighborhoods, Voluntary Assistance and Consumer Protection
Gordon Cavanaugh	Executive Director	Farmers Home Administration
Erastus Corning	Mayor	Albany, New York
Mary Crosby	Legislative Assistant	Senator McGovern
Harris Dates	Chairman, County Budget Committee	Board of County Representatives Tompkins County, New York State
Matthew McHugh	Congressman	House of Representatives
William Nagle	Federal Director	Rural Development Service, U. S. D. A.
David Nolan	New York State Director	Farmers Home Administration
Vincent Reade	New York State Director of Economic Development	Bureau of Community Affairs Department of State
Neill Schaller	Administrator	Science and Education Administration-Extension, U. S. D. A.
Gwen Steingraber	Legislative Assistant	Senator Abourszek
Nancy Wartow	Rural Development Specialist	Office of State and Community Affairs Office of Human Development, H. E. W.

All of the interviews were conducted using elite and specialized interview methods (Dexter, 1970). The interviews were conducted by two staff members of the Cornell University Project. In this type of interviewing a general plan is used rather than a schedule. A nonstandardized approach was essential for these elite informants since it was the objective of the research to obtain their specialized, unique experience and knowledge and to have the interview focus on aspects of the general problem under discussion with which they were most familiar. The interviews were intended to stress the informant's definition of the situation and topic. Each was

encouraged to structure the account of the situation from his or her own perspective and background and to introduce information which each perceived to be relevant instead of relying upon the investigator's notions of relevance. The general range of topics discussed during the interviews is outlined in Appendix A (p.34).

The interviews, during the secound phase of data gathering, were all recorded on three quarter inch color video cassettes. Before each interview each informant was told that the purpose of the interviews was to gather expert testimony on topics under consideration. They were told that they had been nominated by others who viewed them as knowledgeable about: what makes for a successful community service planning and presentation effort; and what to avoid when making presentations on behalf of community services before local, state and national decision-makers. In addition,they were told that training materials would be constructed drawing upon ideas from all the interviews and from a review of literature and that the video training tapes produced from the interviews would be distributed to local community service professionals and citizen advisory boards by several agencies including Science and Education Administration - Extension, U.S. Department of Agriculture. The telephone appointment inquiry plan is outlined in Appendix B (p.36). Still further, they were told that each informant would have the opportunity to delete any remarks which had been video taped and which they would not like to be used. This process was implemented by transferring the audio portion of the video tape to an audio cassette so that a typist could produce written transcripts. These transcripts were then used for further data analysis as well as to assist in the editing process in the production of training tapes. These transcripts were mailed back to each informant for his or her deletions with a request for legal permission to use the balance of the material if desired by the project for public distribution. Cornell University's video release form was used for this purpose. All informants returned them signed. A copy of the form is found in Appendix C (p.37). There were no requests for deletions, considering the candidness of most of the informants.

During the first part of each video taped interview, while the

equipment was being set up, the interviewer would engage each informant in conversation intended to bring about a relaxed interview relationship. This usually lasted from 15 up to 30 minutes. On most occasions the informants were not aware of the actual moment when video taping had begun. This informal conversation mostly related to past work experience of the informant or to the mission or nature of the organization for which he or she worked. The interviewers did not attempt to engage in dialogue with the informants on any technical level information. Rather, they acted as proxies for the intended ultimate audience, those who would be learning ideas from the training materials and from the training tapes. Questions were asked as infrequently as possible and only as a way of inducing the informant to go into further detail. Non-verbal cues such as quizical gestures and facial expressions showing interest were usually effective in stimulating an informant to further explain or move into a new area of focus. The average length of time spent at each interview site was 60 minutes. This included time spent in setting up and dismantling the video equipment. However, only 20 minutes of actual video tape (the length of a single cassette) was usually recorded. The interviews with five informants were so rich in material that more than one cassettee was used for each.

Analysis of data obtained from review of the literature, the first phase of local interviewing related to the case studies, and the VTR interviews with the above mentioned elites was accomplished primarily through the use of thematic and structural analysis. In thematic analysis the researcher attempts to classify the explicit and implicit (symbolic) themes in the data. In structural analysis the researcher is concerned with the interrelations of the various themes in the data. The data analysis process included the following steps:

1) The data were evaluated in order to correct for substantive influences and objective distortion. Portions of data were considered to be unuseable.

2) The data were scanned for the purpose of identifying inductive categories which consisted of general themes, structures, functions, patterns and variables. Each staff member nominated these independently and then a synthesis of categories was created.

3) These synthesized themes or emergent categories were evaluated according to the adequacy of their congruence with theories or deductive generalizations from the literature, and their adequacy to include the variability of instances in the data.

4) Further analysis of data was then conducted in relation to each of the themes or emergent categories in order to derive findings that would inform the production of training content.

From the findings resulting from the data analysis, judgments were made by the project staff about the importance of various concepts and ideas for the training content; the interrelationships of the various themes, concepts and ideas; and their sequencing for the design of training activities. Several seminars were held with practitioners in order to enable the staff to collect reactions to the relevance and useableness of the emergent concepts and ideas. After training materials were created, twelve workshops were held with practitioners to pilot test the training designs and the training content for each module. This was viewed as an iterative process with evaluation and refinement occuring after each interactive event with practioners.

The editing and production process for the video training tapes began with the selection of content or key ideas that were to be emphasized in each of the short video films. The transcripts were helpful in this process. However, the tapes themselves must be viewed repeatedly in order to make selections based upon not only content, but clarity of voice, intensity of expression, and adequacy of spacing after each selected statement.

Having chosen the statements and graphic visuals (titles, stills, etc.) a program schedule or log is then written. This schedule lists selected scenes in proposed sequence with exact start and stop points. The time entries on a log or schedule can be general - approximate minutes and seconds or accurate to a frame. Once a good program time schedule is established, the actual editing in a well equipped studio can be rapid and most economical even for very high quality work.

The editing process, the cutting and splicing of audio and video segmants to eliminate or join the segments of the production is most satisfactorily done electronically (Ancona, 1974). The editing generally is done by electronically transferring the image from one tape to

another in the sequence that is desired. This means that the edited tape is a second generation assembled copy of sections of the original master tapes.

Before the actual editing process takes place, the producer assembles any other visual elements which may be added into the composite production such as slides, 8mm, 16mm or 35mm footage, stills and video tape footage from other formats. These elements are usually transferred to the tape format being used for editing. Additional sound effects also can be added (a post-assembly sound mix may be done).

Most professional studios today involve some type of automatic or computerized editing system. In most cases a technician will actually operate the equipment and make all necessary adjustments to insure the best possible quality in the end product. The responsibility of the individual or group producing a video program is to have all of the relevant decisions - edit points, titles, special effects, total duration, etc. - made before setting foot in the studio. This will insure easy and economical post-production and a good finished product.

CRITERIA FOR EVALUATION

The focus of this report is on making evaluative judgments about the strengths and limitations of using VTR as an applied research technique in the project described above. To this end, two hypothetical alternatives (Type I and Type II approaches which have been briefly described above) will be used for theoretical comparison. The three types of approaches are briefly summarized:

- A Type I approach consists of a literature review with a video production usually added as part of the development of training materials after a literature search and the formulation of training content is complete;
- A Type II approach adds a video production phase after both a literature review and a collection and analysis of field data is completed;
- A Type III approach (which has been described in this report) combines the video production with the collection of field data after a literature review is completed and before decisions are made about the ultimate content of the training.

The following criteria have been selected for making judgments

about the strengths and limitations of each of the three alternatives:

- Access to Data, that is, the extent informants are available and willing to provide information through cooperating with the data collection process;
- Quality of Data, that is, the extent that data are free from undue influence from inhibiting external or internal forces such as social desirability bias;
- Quality of the VTR product, that is, the richness of content, its credibility to viewers, and the relevancy of ideas; and
- Cost of Production, that is, the relative costs of personnel interview and production time, costs of materials, and editing of video tape training cassettes.

Each of these will be discussed in turn.

ACCESS TO DATA

The Type I approach described above does not call for the collection of data so judgments about access are not applicable. The purpose of VTR in the Type I approach is to obtain material which more specifically illustrates the ideas derived for a review of literature. This material is not considered data since findings are not derived from it. In the other two approaches the gathering of data and their analysis is viewed as a major step and therefore access to data is crucial. When comparing the second to the third approaches relative to access to data the critical question is, "Will people be more or less willing to be interviewed if you tell them that the interview will be video taped?" The answer is a complex one and has to be answered "maybe."

Wagner (1974) has developed what he calls the "Risk Model," for understanding the reasons for acceptance, modification, abandonment, or rejection of the use of VTR as an instrument in community development. In the instances Wagner studied, VTR was used with community elites in interviews and in community meetings. The Risk Model is helpful in explaining the success of the Type III approach in gaining access to data. Wagner's findings indicate that the introduction of VTR can inhibit access to data as often as it facilitates its gathering. It appears to depend upon the extent that informants view the process as holding a high and unacceptable risk or a low and acceptable risk. The three variables

identified as affecting the risk level directly or indirectly are: 1) control; 2) value of potential loss or gain; and 3) outcome visibility (Wagner, 1974).

> Control is defined as the degree to which the subject involved in a proposed process perceives his ability to affect the decision-making involved in the proposed process. . . .
>
> Value of potential loss or gain is defined as an estimate, by the subject(s) involved in the proposed process, of the value of what may be lost or gained by the subject(s) if the process continues as originally proposed. . . .
>
> Outcome visibility is defined as the degree to which the subject(s) involved in a proposed process can envision: i) the eventual outcome of the process proposed; and ii) the precise process leading to that outcome (pp. 6-7)

In addition to these variables, Wagner has identified another influence on participation in a VTR process. It is described as information immediacy and is made up of the following factors:

> Issue strength is the emotionally based motivation that a subject uses to direct himself or herself at resolving a specific issue or concern. . . .
>
> Routiness is a process that occurs repeatedly, so that while in process the subject can anticipate the process and is not required to synthesize information or deal with the unexpected. . . .
>
> Number of subjects documented. . . .
>
> VTR process immersion refers to the extent that the aura or mystique accompaning the VTR facility is overcome and accepted so that individuals could utilize it as an extension of themselves (pp. 19-23).

The above variables and factors provide a useful framework for explaining why the informants, in the VTR data collection reported above, were available and willing to provide data. Out of 40 elite informants who were selected and asked to provide video taped data, 36 cooperated. One senator declined with the explantion that time did not permit his participation. Representatives from two large foundations declined the invitation along with a person from a grantsmanship center. The risks for informants, apparently, were low and acceptable. They evidently felt some control in the process even though they did not control the camera since they did have the option of deleting any material which was unaccepatable to them. Informants appeared to have little concern over the intended use of their statements as part of training tapes which would be viewed by local planners of community services. In addition, informants gave evidence of being very much emotionally involved with the content

of the interviews and were committed to sharing their knowledge with intended audiences. All the informants were interviewed and video taped in surroundings which were familiar to them and in which interviewing was routine. The amount of time contributed was not extensive for most and the knowledge that other elites, familiar to some of them, also were participating provided a reduction of risk. Almost all of them were familiar with VTR and were not absorbed with its aura or mistique. In this particular instance, the presence of VTR appeared to enhance access to data. In fact without it, it is doubtful that access could have been obtained with some of the informants. It is recognized that the purpose of the project and the espoused missions of the agencies and organizations from which the informants were drawn contributed to their willingness to participate. In other instances, access to data would be inhibited by the introduction of VTR due to variables creating high risk in informants. In the judgment of the project staff, the addition of VTR as a data collection technique in this situation (a Type III approach) increased access to data from these particular selected elites.

QUALITY OF DATA

The intent of most applied research efforts, directed toward the development of training materials, is to gather data that is relevant to the solution of problems at hand. The researcher is conserned that informants are free from undue influence from inhibiting external or internal variables such as social desirability bias. Informants are encouraged through the data which they provide to reveal their current opinions, beliefs, values, and hypothetical reactions. In addition they can provide their judgments about the effectiveness of approaches, techniques and strategies related to situations with which they are familiar. Occasionally they may provide reports or observations of events or facts. The key question relating to quality of data is this, "What factors can be expected to influence an informant's reporting under particular interview circumstances?" According to Dexter (1970, pp. 122-123) the variables which are likely to be important include: 1) ulterior motives which the informant has that might modify his reporting; 2) bars to spontaneity which might inhibit free expression by the informant; 3) desires to please the interviewer so that his opinions will be well thought of; and 4) any idiosyncratic

factors that may cause the informant to express only one facet of his reactions to a subject. Warwick and Lininger (1975, pp. 201-202) describe the more common forms of bias as: courtesy bias; ingratiation bias; sucker bias; and social desirability bias. Social desirability bias differs from both courtesy bias and ingratiation bias in that the main point of reference of the former is the norms of society rather than the expectations of feelings of the interviewer.

Theoretically, it is reasonable to assume that the introduction of VTR equipment into an elite interview situation is likely to increase especially the possibility for inhibiting spontaneity and social desirability bias. The introduction of VTR effectively eliminates anonymity except for those portions of the tape which informants choose to delete as their right according to what they were told. In the judgment of the project staff, the use of VTR did not inhibit spontaneity much beyond the first five minutes of taping. Out of 36 informants, there were only 2 who gave indications of inhibited spontaneity throughout an entire interview. This observation is similar to conclusions reported by Bush (1972) that there was no significant evidence that the presence of VTR in college classrooms affected any negative aspects of reticence, anxiety or exhibitionism on the part of teachers. Lawrence (1971) also reported that there was no significant difference between the behaviors of persons who participated in VTR therapy sessions in a studio and those who participated in sessions held in a private or secluded setting. The explanation that is given is that most people tend to forget the camera when they become absorbed with the content of the interaction.

There is some evidence from the present project, both verbal and nonverbal, that the informants were aware of a potential audience through the VTR presence. In the judgment of the project staff, only one informant appeared to be under obvious influence of social desirability bias. A few informants used the occasion to express particular messages or points of view which they hoped would reach an ultimate audience. The interview content and the objective of the project was intentionally directed toward facilitating the education of a local community service audience about the opinions, suggested strategies and values of decision-makers and elites similar to those who were interviewed so the informant's awareness of the ultimate audience was not seen as a negative factor in the quality of data.

There is little evidence from viewing the tapes or reading the transcripts that informants were giving advice that would cater to what the ultimate audience at the local level would be pleased to hear. However, because VTR effectively eliminates anonymity, unless it is used without the knowledge of the informant, the possibility of social desirability bias is present and therefore it is concluded that the quality of data, in most cases in a Type II approach is theoretically of better quality than Type III.

QUALITY OF VTR PRODUCT

The quality of a VTR product lies not only in its technical excellence but in its richness of content, its credibility to viewers and the relevancy of the content to viewer's problems. In comparing Type I, II, and III approaches described above in regard to their potentiality for the production of a quality VTR product it is recognized that conditions other than the approach greatly affect quality. In these comparisons it is assumed that equipment, skill in operation, and quality of editing remain constant for all three approaches. Also, it is assumed that the objective of producing usable, credible, video training cassettes remain the same for all three approaches. The major difference lies in whether at the point of video taping, the content of the training has or has not been identified and formulated and whether the taping process is to be used to illustrate what has been preordinately determined or whether the intent is to collect data from which ideas and concepts can be derived and from which illustrations can be selected for the production of the video tape products.

In a Type I approach, the quality of the production is likely to be weak because the relevancy of the ideas and content have been derived entirely from a literature review which could very well provide a discrepant position with the reality known by practitioners who would be unlikely in this case to articulate the position found in literature when placed before a VTR camera. Producing VTR products after only a literature review tends to define and confine the notions of relevance and to exclude the collection of information that does not fit the already determined training content. The temptation at this point is to stage a production that will illustrate the teaching content. When this is done, the credibility is likely to be reduced.

In a Type II approach there is still a tendency for the above weakness to occur since the task of producing a video training tape still takes place after the training content has been determined. Because field data have been collected and analyzed there is a much greater possibility in a Type II approach that the tapes produced will reflect relevancy for practitioners.

However, the Type III approach, in the judgment of the project staff, has definite advantages in the production of a quality VTR product. Tapes can be produced which reflect a wide viewpoint of persons who were not being coached to say what would fit the preordinate themes. Instead of having to hunt for illustrative material, tapes can be produced from data which reflect the opinions of the field and are congruent with the content of the rest of the training materials since they can be derived simultaneously rather than through a two stage process.

COST OF PRODUCTION

Some of the costs of production of VTR training products are theoretically constant across the three types of approaches described above. Editing costs, for instance, would remain constant and would depend on the number of edits per tape. Actual editing production costs currently vary from $50 to $100 an hour (includes a technician). Production costs, including equipment rental and a technician/camera person, will also run $30 to $80 an hour. Costs of tape reproduction will vary from $40 to $75 per hour for three-quarter inch cassettes including the cost of the tape itself. Tape costs range currently from 40¢ to 75¢ a minute for three-quarter inch cassette tape according to 1978 prices of Panasonic, Sony, RCA and Video Tape Company. Factors affecting the cost of producing a video training tape include the brand of tape used, size and length of tape, editing equipment and tape reproduction costs. More crucial to the final costs is the chosen level of elaboration: number of interviews, hours of tape shot, amount of extra visual material gathered, sophistication of editing and special effects in post-production. The costs of personnel, travel time for video tape recording and the extent of taping are likely to differ according to whether Type I, II or III approaches are used.

In comparing these three approaches relative to cost of production, the costs are lowest for a Type I approach because the costs of data collection are not applicable. However costs could be comparable and even higher if taping were to continue until the content provided by the practitioners became congruent with the content derived from a literature search.

In a Type II approach, the costs are higher than they would be in a Type I approach because the production costs, including personnel, should reflect the costs of gathering data, since in this two stage process the identification of potential persons for later video taping can occur. This has the advantage of screening out informants who are not likely to make a significant contribution to the production of training tapes. Therefore, the costs for the video interviews are considerably lower. However, the costs of time for informants who must be involved twice due to a return video appointment are increased over what it would be for either a Type I or a Type III approach. If, however, informants resist return appointments and costly studio staging must be substituted in order to compensate for lack of video material, the costs in that case would increase considerably.

A Type III approach, on the other hand, theoretically would cost more than either a Type I or Type II approach since both an interviewer and a camera person must be present for all data gathering interviews and it is likely that more tape will be used since all data gathering interviews are taped. However, the costs due to the number of unuseable video interview tapes can be reduced by a thorough preliminary telephone screening of potential informants. If this is done then the costs are likely to be more camparable to a Type II approach. If, however, this is not done, then the costs could be considerably higher. The production advantage of a Type III approach lies in its one step collection of information, and the elimination of the problem of hunting for material to record that fits the determined content.

Theoretically, the costs of production time could be low for a Type I approach because it can be argued there is no time spent on data collection and analysis. The costs for Type II and Type III approaches, theoretically are greater due to the addition of data gathering and analysis. The

Type III approach requires additional costs for the added personnel for video recording. However these cost differences are offset when other costs are taken into consideration.

Type I and Type II approaches may require an increase in studio production time in order to stage interviews, to keep the quality of production high. This adds considerably to the cost since studio production time is very expensive. A Type III approach is likely to involve less studio time since products can be composed from a rich variety of material without having to search for appropriate interviews to use in studio staged productions. Therefore, whatever savings in cost that may occur by either eliminating the interview step or by conducting it without VTR may be offset by costs in the use of studio time. It is therefore concluded that costs are likely to be comparable for all three approaches if the quality of production is to remain ralatively constant.

SUMMARY OF JUDGMENTS

This report has focused on making evaluative judgments about the strengths and litmitations of using VTR as an applied research technique in a project funded (1977-1978) by the Science and Education Administration Extension, U.S. Department of Agriculture. The project staff of the Department of Community Service Education, NYS College of Human Ecology, Cornell University developed training materials including VTR cassettes for human service agency professionals and voluntary decision-makers who serve on their boards and committees. The content of the training involved planning skills in need analysis, building public support for community services, identifying resources and making effective presentations.

In order to evaluate the approaches used in the project, two hypothetical alternative approaches were considered and discussed. They have been described as: Type I (consisting of a literature review with a video production effort usually added as part of the development of training materials); Type II (consisting of a literature review, a field data collection process followed by a video production effort after data were analyzed.) The approach described as part of the project was defined as Type III (consisting of a literature review, fol-

lowed by a combined collection of data using video tape from which decisions about training content as well as training tapes were derived.) Four criteria were used to evaluate the comparative strengths and limitations of the three approaches. These criteria are: 1) access to data; 2) quality of data; 3) quality of VTR production. Table V summarizes the judgments about the strengths and limitations of the alternative types using the four criteria:

TABLE V

Judgments about the Strengths and Limitations of Three Alternative Ways of Relating the Production of Video Training Cassettes with an Applied Research Project for Development of Training Material.

Judgment Scale: -- - - + + + +

Criteria for Evaluation of Strengths and Limitations	Type I Lit. Review Video Production Added After Lit. Review	Type II Lit. Review Video Production Added After Data Collection	Type III Lit. Review Video Production Combined with Data Collection
Access to Data	Not Applicable	+	+ +
Quality of Data	Not Applicable	+	+ -
Quality VTR Product	-	- +	+ +
Cost of Production	+	+	+

In the judgment of the project staff the Type III approach which was implemented has potential weaknesses in the quality of data. These however, are offset by strengths in access to data from particular types of informants on selected issues. There also are advantages in VTR production which tend to increase quality. A type III approach is recommended when particular informants are likely to view their participation as low risk. If their risk in participation is high the project will have low access to data and data will probably lack quality due to the loss of anonymity and social desirability bias. A Type II approach is required for such situations. A Type I approach is not recommended unless the training content involves errorless type instruction.

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APPENDIX A

CONTENT OF TOPICS DISCUSSED DURING ELITE AND SPECIALIZED INTERVIEWS

ANALYZING COMMUNITY NEED

- What contribution, if any, does analyzing community need make to the task of planning for community services?
- How do you think community groups and organizations should go about analyzing and collecting evidence of need for services?
- What are effective ways of presenting the need for a community service?

IDENTIFYING AND OBTAINING RESOURCES

- What seems important to decision-makers when they are considering decisions about resources for community services?
- How do you find out what decision-makers (government agencies and foundations) are looking for in proposals?
- How should community groups go about looking for sources of funds and other resources?
- When and under what circumstances do you seek resources from either private foundations or from government?
- What are common reasons for the failure of local groups to obtain resources?

SEEKING INVOLVEMENT AND GAINING PUBLIC SUPPORT

- What are effective ways of getting people in the community and decision-makers involved in planning for community services?
- What kinds of evidence of community support is important for an effective presentation?
- How do community groups go about gathering evidence of local support for a community service proposal?
- What are ways of building coalitions of groups and agencies to provide support for services?

MAKING EFFECTIVE PRESENTATIONS FOR COMMUNITY SERVICES

- What do community groups have to know in order to make effective presentations?
- What advice would you give to persons making presentations?

APPENDIX A (Continued)

MAKING EFFECTIVE PRESENTATIONS FOR COMMUNITY SERVICES (Continued)

- What is the essential content in an effective presentation for community services?
- How do you know what arguments to use?
- What practices have been effective in influencing decisions regarding the provision of community services?
- What are the best methods and media for reaching various groups?
- Does it make a difference who is selected to make an oral presentation?
- Does design and style of a presentation matter?

APPENDIX B

TELEPHONE APPOINTMENT INQUIRY PLAN

The interviewer uses the following introductory statement: Hello, I am _____ from Cornell University. Several persons, _____ _____ and_____, have mentioned you as a person who might be of help to us.

We have a grant from Extension Service, U.S.D.A., to develop training materials for public interest groups, lay board members and personnel working in human service agencies in rural communities to help them better analyze community needs and help them seek out when to get support, who can help them and how to generally do it. We are in process of developing a series of video tapes that are documenting this entire process - how it has been working in rural communities in 1977-78. We are interviewing: (1) decision-makers who decide which programs to support, both from the government's perspective and private sources -- Why they decide to fund or support what they do and what they look for; (2) persons or groups which have been successful at this process -- having them tell what they think works and also what often fails; and (3) organizations or individuals who help groups or organizations get organized to go through this process.

APPENDIX C

FORMS FOR OBTAINING
PERMISSION FOR PUBLIC USE OF VIDEO TAPED INTERVIEW MATERIAL

NEW YORK STATE COLLEGE OF HUMAN ECOLOGY
A Statutory College of the State University
Cornell University, Ithaca, New York 14853
DEPARTMENT OF COMMUNITY SERVICE EDUCATION

CE VIDEO

Cornell University is hereby granted the right to use, to the extent that it desires, any pictures, vocal or instrumental sounds, or any other activity in which I have taken part on behalf of the University, and this authorization shall extend to its grantees, leasees or licensees.

Date: _____

Signature: _____

Address: _____

_____

For use where participant is a minor:

I agree to and join in the above grant.

Parents or _____

Guardian _____